Test Definition: ETGSR

Ethyl Glucuronide Screen with Reflex, Random, Urine (Non-Orderable)

Overview

Useful For

Only orderable as part of profile. For more information see:
ADMPU / Addiction Medicine Profile with Reflex, 22 Drug Classes, High Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine
CSMEU / Controlled Substance Monitoring Enhanced Profile with Reflex, 21 Drug Classes, High Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine
PMHPU / Pain Management Hybrid Profile, 22 Drug Classes, High-Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine

Screening for drug abuse involving alcohol

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
ETGC	Ethyl Glucuronide Confirmation, U	Yes	No

Testing Algorithm

Testing begins with a screening assay. If the screen is positive, then the liquid chromatography tandem mass spectrometry confirmation with quantification will be performed at an additional charge.

Method Name

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PMHPU / Pain Management Hybrid Profile, 22 Drug Classes, High-Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine

Enzyme-Linked Immunosorbent Assay (ELISA)

NY State Available

Yes

Specimen

Specimen Type
Urine

Specimen Required
Only orderable as part of profile. For more information see:
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Specimen Minimum Volume
2.5 mL

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	28 days	
	Ambient	28 days	
	Frozen	28 days	

Clinical & Interpretive

Clinical Information
This test uses immunoassay reagents designed to produce a negative result when no drugs are present in a natural (ie, unadulterated) urine specimen; the assay is designed to have a high true-negative rate. Like all immunoassays, it can have a false-positive rate due to cross-reactivity with natural chemicals and drugs other than those they were designed to detect. The immunoassay also has a false-negative rate to the antibody's ability to cross-react with different drugs in the class being screened.

Ethyl glucuronide is a direct metabolite of ethanol formed by enzymatic conjugation of ethanol with glucuronic acid. Alcohol in urine is normally detected for only a few hours, whereas ethyl glucuronide can be detected in the urine for 1 to 3 days.

Reference Values
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PMHPU / Pain Management Hybrid Profile, 22 Drug Classes, High-Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine

Negative

Screening cutoff concentration:
Ethyl glucuronide: 500 ng/mL

Interpretation

This assay only provides a preliminary analytical test result. A more specific alternative method (ie, liquid chromatography tandem mass spectrometry) must be used to obtain a confirmed analytical result. A positive result using the ethyl glucuronide screen indicates only the potential presence of ethyl glucuronide and does not necessarily correlate with the extent of physiological and psychological effects.

Cautions

Care should be taken when interpreting results since there are many factors (eg, fluid intake and other biologic factors) that may influence a urine test result. It is possible that substances other than those investigated in the specificity study may interfere with the test and cause false-positive or negative results.

Clinical Reference

1. Schmitt G, Aderjan R, Keller T, Wu M. Ethyl glucuronide: an unusual ethanol metabolite in humans. Synthesis, analytical data, and determination in serum and urine. J Anal Toxicol. 1995;19(2):91-94
2. Dahl H, Stephanson N, Beck O, Helander A. Comparison of urinary excretion characteristics of ethanol and ethyl glucuronide. J Anal Toxicol. 2002;26(4):201-204. doi:10.1093/jat/26.4.201
3. Wurst FM, Skipper GE, Weinmann W. Ethyl glucuronide--the direct ethanol metabolite on the threshold from science to routine use. Addiction. 2003;98 (Suppl 2):51-61. doi:10.1046/j.1359-6357.2003.00588.x
4. Zimmer H, Schmitt G, Aderjan R. Preliminary immunochemical test for the determination of ethyl glucuronide in serum and urine: comparison of screening method results with gas chromatography-mass spectrometry. J Anal Toxicol. 2002;26(1):11-16. doi:10.1093/jat/26.1.11
5. Weinmann W, Schaefer P, Thierauf A, Schreiber A, Wurst FM. Confirmatory analysis of ethylglucuronide in urine by liquid-chromatography/electrospray ionization/tandem mass spectrometry according to forensic guidelines. J Am Soc Mass Spectrom. 2004;15(2):188-193. doi:10.1016/j.jasms.2003.10.010
6. Langman LJ, Bechtel LK, Holstege CP. Clinical toxicology. In: Rifai N, Chiu RWK, Young I, Burnham CAD, Wittwer CT, eds. Tietz Textbook of Laboratory Medicine. 7th ed. Elsevier; 2023:chap 43

Performance

Method Description

This assay is a homogeneous enzyme-linked immunosorbent assay technique. The assay is semiquantitative. It is based on competition between free drug in the urine sample and a drug labeled with the enzyme glucose-6-phosphate dehydrogenase for a fixed amount of specific antibody binding sites. Active enzyme converts nicotinamide adenine

dinucleotide (NAD[+]) to NADH, which results in an absorbance change that can be measured spectrophotometrically at 340 nm.(Package insert: ETG. Immunalysis; 03/2019)

PDF Report
No

Day(s) Performed
Monday through Saturday

Report Available
Same/1 to 2 days

Specimen Retention Time
14 days

Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Superior Drive

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information
80307

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
ETGSR	Ethyl Glucuronide Scrn w/Reflex, U	58375-7

Result ID	Test Result Name	Result LOINC® Value
616033	Ethyl Glucuronide Screen, U	58375-7